

HEPATICAÆ.

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| <i>Bazzania trilobata</i> (L.) S. F. Gray. | * <i>Lophozia barbata</i> (Schreb.) Dum. |
| <i>Blepharostoma setiforme</i> (Ehrh.) | “ <i>incisa</i> (Schrad.) Dum. |
| Lindb. | “ <i>inflata</i> (Hud.) M. A. Howe. |
| <i>Blepharostoma trichophyllum</i> (L.) | * * “ <i>lycopodioides</i> (Wallr.) Schif. |
| Dum. | “ <i>ventricosa</i> (Dicks.) Dum. |
| <i>Diplophyllia taxifolia</i> (Wahl.) Trev. | <i>Marsupella emarginata</i> (Ehrh.) |
| * <i>Gymnomitrium concinnatum</i> (Lt.) | Dum. |
| Corda. | * <i>Nardia obovata</i> (Nees) Lindb. |
| * <i>Lophozia alpestris</i> (Schleich.) | <i>Ptilidium ciliare</i> (L.) Nees. |
| Evans, N. Comb. (<i>Jungermannia alpestris</i> Schleich.) | * <i>Scapania umbrosa</i> (Schrad.) Dum. |
| “ <i>attenuata</i> (Lindb.) Dum. | “ <i>undulata</i> (L.) Dum. |

NOTES ON THE BRYOPHYTES OF MAINE,—II.

KATAHDIN MOSSES.

J. FRANKLIN COLLINS.

Amblystegium varium (Hedw.) Lindb. Widely distributed in North America, ranging from Newfoundland and New Brunswick to British Columbia and southward, though it seems to have been definitely reported from only four of the New England States,—Vermont, Massachusetts, Rhode Island and Connecticut. It also occurs in Europe, Asia and South America.

Catharinea. A few specimens of a *Catharinea* without fruit. In some of their characteristics these plants agree with Macoun's specimens of *Atrichum leiophyllum* Kindb. distributed in his Canadian Musci, and it seems best to refer them, provisionally, to this species until an opportunity occurs for further and more critical study. They are, with but little doubt, allied to *A. leiophyllum*. No record has been found of any New England *Catharinea* with undifferentiated leaf margins.

Conostomum boreale Swz. has been reported from Newfoundland, Gaspé, White, Adirondack and Rocky Mts., British Columbia and northward. On Katahdin this moss occurs, so far as these collections are concerned, from 4,000 feet upward—mostly above the Tableland.

Cynodontium polycarpum strumiferum (W. et M.) Schpr., occurs from Newfoundland and Labrador to British Columbia and high northward, but seems to have been reported thus far from only one of the States (Minnesota). The leaves of the Katahdin material are not sheathing at base and are papillose toward the apex. The margins are narrowly revolute and unistratose except at apex, where they are bistratose but not revolute. The dry capsule is arcuate, distinctly furrowed and strumose.

Dicranoweisia crispula (Hedw.) Lindb. About the ponds in the North and South Basins. Reported from Greenland, Labrador, Gaspé, Rocky and Selkirk Mts., Oregon, Washington, Utah, California, Idaho, etc. In 1846 Mr. S. T. Olney reported this moss ("Weissia crispula Hedw.") as occurring on rocks in Providence, R. I., but no specimens are preserved in the Olney Herbarium at Brown University. In 1888 Mr. Bennett omitted the moss from his catalogue. His reason for doing so is not known to the writer.

Dicranum congestum flexicaule Br. Eur. Apparently not reported from any definite station, yet recorded as occurring with the type (i. e. *D. fuscescens* Turn.).

Dicranum fulvellum (Dicks.) Sm. This species occurs in Europe. In North America it has been reported from Greenland, Oregon, New York and the White Mts. All the Katahdin material was collected on the main peak above the Tableland.

Dicranum fuscescens Eatoni R. et C. The writer has seen no fruit on these specimens, the stems of which reach a height of nearly 15 cm. Dr. True writes that he has this variety from Montana and New Hampshire.

Grimmia Doniana Sm. There seems to be very little doubt that a species of *Grimmia* collected near the summit and again at the Chimney should be referred to this species, although critical comparison with authentic specimens from other localities has not been made. Previously recorded from White Mts., Alberta and Western North America.

Hypnum montanum Wils. mss. Heretofore reported from Newfoundland, Ontario and White Mts. The leaves differ but slightly from those figured in Sullivant's Icones, tab. 113.

Mielichhoferia nitida elongata (Hsch.) Br. Eur. These luxuriant sterile specimens (collected by Dr. Kennedy) were growing in a very wet depression on the sheltered side of a boulder near the summit.

The stems, in some cases fully 18 cm. long, were somewhat reclining and the green tips ascending. Except for this difference of habit the general appearance of the mass of plants is well represented in Bry. Eur. tab. 329. The leaves, however, differ from the illustrations there given in being narrower, with a decidedly stronger costa and a slightly sharper apex. This variation may be caused by its exceedingly moist habitat. Dr. Kennedy has compared the Katahdin specimens with Husnot's Mus. Gall. No. 331, and with Austin's Musci Appal. Suppl. I, No. 509, where it is given as *M. compacta* (*Bryum compactum*, Bot. Gaz. 2: 111). Habitat, alpine regions of the White Mts., common; also mountains of New York and New Jersey.

Pogonatum urnigerum (L.) Beauv. Widely distributed in Europe, Asia, Africa and North America. It has been reported from Newfoundland, Nova Scotia, New Brunswick, Quebec, New Hampshire, Vermont, Massachusetts, and numerous other localities throughout North America.

Tayloria tenuis (Dicks.) Schpr. On bones and hair of caribou at the edge of the Tableland (G. G. K.). Young and without fruit, yet the leaves are characteristic of the genus, and after a careful comparison with specimens from Quebec, Vermont and Alaska, it seems safer to place the Katahdin plant here, rather than as a form of *T. serrata* (Hedw.) Br. Eur., with smaller, less serrate leaves. It corresponds very closely with Macoun's Can. Mus. 141, in areolation, size and shape of leaf, but differs in having a more attenuate apex and less strongly serrate margin in the upper part. Leaf drawings of the Katahdin specimens made with a camera correspond very accurately in all details with the illustrations of var. *tenuis* in the Bry. Eur. (tab. 285), except that the serratures are only about half as prominent as there figured (fig. 6, a.). *T. tenuis* is reported from New Brunswick, Nova Scotia, Gaspé, Greenland, Montana and Vermont. At least a portion of the *Tayloria* from Mt. Mansfield (collected by Dr. Kennedy) appears to be *T. serrata*.

Tetraplodon angustatus (L. fil.) Br. Eur. On nearly extinct remains of some unidentified animal. Previously reported in New England from the White Mts. It occurs in Newfoundland, New Brunswick (close to the Maine border), the Adirondacks, Lake Superior, Manitoba, British Columbia and northward; also in Europe. The leaves of this material vary slightly from some of the

published descriptions of the species in having the costa often dissolving below the sulula and the teeth of the upper margins long, slender and prominent. Occasionally a single tooth reaches a length of .3 mm. or more. The lower leaves are about $2 \times \frac{3}{4}$ mm., the longer ones of the stem 4×1 mm., and the perichaetial $2 \times \frac{3}{4}$ mm. These measurements do not include the subula, which on the lower leaves is about $\frac{3}{4}$ mm. long, becoming gradually longer on the succeeding leaves until on the inner perichaetial it reaches a length of about 3 mm., and exceeds the lamina. Tab. LXII. B. fig. 1a. of Braithwaite's British Moss-flora would correctly represent the apex of these leaves if the costa dissolved about twice as far from the extreme apex as there figured. The only noticeable difference between the leaves of the Katahdin plants and authentic Scandinavian specimens is that the marginal teeth are usually somewhat longer in the former than in the latter. Unfortunately only a few imperfect capsules were obtained.

Tetrodontium Brownianum rigidum (Funck) Jur. (*Tetraphis ovata* Funck). Apparently not hitherto reported from North America. This appears to be identical with H. C. Funck's specimens distributed in his "Cryptogamische Gewächse des Fichtelgebirges" with which the Katahdin specimens have been compared at the Harvard Cryptogamic Herbarium. Limpricht (Die Laubmoose) regards this genus as composed of one species (*Brownianum*) and two varieties (*repandum* and *rigidum*). The species in its typical form, with the long frondiform basal leaves, has apparently not been reported from this country. The var. *repandum* (*T. repandum* Schwaegr.) has been recorded from the White Mt. region and Newfoundland, yet the writer has been unable to detect, with a strong hand lens, any of the characteristic flagelliform basal shoots on the New Hampshire specimens in the James Herbarium. It is quite possible that at least a portion of the White Mt. material may lack these shoots which form practically the only definite means of separating var. *repandum* from var. *rigidum*. Dr. Grout's *Tetrodontium*, from Mt. Prospect, N. H., is apparently identical with the Katahdin plant; both have the very short frondiform leaves, and both are without basal flagellae. Intergrading forms are reported from Europe which connect the species with its var. *rigidum*, and it would perhaps be better (following many authors) to treat the latter as a *form* rather than as a *variety*.